ANNUAL MAINTENANCE PLAN
FOR
HERBICIDE TREATMENT PROGRAM ON BLM LANDS IN ARIZONA

Purpose

The purpose of this annual maintenance plan is to support preservation of Arizona's native ecosystems and reduce the hazard to the motoring public through cooperative management of invasive species and hazardous vegetation along public roadways managed by the Arizona Department of Transportation (ADOT) that pass through lands administered by the Bureau of Land Management (BLM)**.** The BLM, Federal Highways Administration (FHWA) Arizona Division, and ADOT believe there is a need to be proactive in controlling hazardous vegetation as well as noxious weed and invasive plant species infestations along public roadways in the state of Arizona. This annual maintenance plan describes responsibilities and procedures agreed to by ADOT, FHWA and BLM related to the implementation of the joint ADOT Herbicide Treatment Program on Bureau of Land Management Lands in Arizona Environmental Assessment (EA) of 2013 to facilitate a framework for cooperation and coordination between BLM, FHWA and ADOT that will ensure successful implementation through an efficient manner.

Background

In recognition of the severe impact from invasive species, federal agencies are required to control these plants by Executive Order (EO) 13112. Therefore the Federal government, in cooperation with States and others, mobilized to address the invasive species problem. ADOT maintains areas within their Rights-of-Way (ROW) to be compliant with both the Highway Safety Act (*The Highway Safety Act of 1966*; Public Law [P.L.] 89-564, 80 Statute 731) and their department mission to provide safe, efficient, and cost-effective transportation system. This maintenance includes the control of undesirable vegetation to protect adjacent resources on neighboring lands. The BLM, FHWA and ADOT developed a cooperative partnership to reduce the incidence of undesirable vegetation within the ROW maintained by ADOT across lands administered by the BLM and implement the ADOT Herbicide Treatment Program on Bureau of Land Management Lands in Arizona Environmental Assessment (EA) of 2013.

This annual maintenance plan is part of the process outlined in Part B of Section VII. COORDINATION MEETINGS (p. D-5) in the *Amended Memorandum of Understanding between the Arizona Department of Transportation, the Federal Highway Administration, Arizona, and the Bureau of Land Management, Arizona* (MOU No. AZ-931-0309, Amendment #4). The MOU was implemented November 19, 2008 and is found in Appendix D of the *Arizona Department of Transportation Guidelines for Highways on Bureau of Land Management and U. S. Forest Service Lands* (ADOT Guidelines). The Guidelines and MOU for Highways on BLM and USFS Lands manual are continuously updated with changes such as updating web links and adding information to the Maintenance Chapter regarding vegetation management for wildfire and hazard elimination. The entire manual can be found at this link: http://www.azdot.gov/business/engineering-and-construction/roadway-engineering/roadway-design-standards-and-guidelines/guidelines-for-highways-on-bureau-of-land-management-and-us-forest-service-lands.

Appendix O, pages O-1 and O-2, at the link below should be viewed for a description of each page that has changed: http://www.azdot.gov/docs/default-source/business/appendices.pdf?sfvrsn=18.

Roles and Responsibilities

A. The roles and responsibilities of the Parties include:

1. Productive ongoing communication between ADOT, FHWA, and BLM Arizona State, field and District offices to coordinate proposed planned treatment areas on ROWs.

2. The Parties will follow the timelines specified in Exhibit A, attached hereto, for submittal, review, and approval of Pesticide Use Proposals (PUPs) during the implementation of this MOU. The Parties may revise Exhibit A by mutual agreement. Any revisions must be added to the official file maintained in Central Files at the BLM Arizona State Office.

3. PUPs will be approved for up to three years unless the annual review conducted by ADOT and BLM indicates that specific conditions of a PUP are no longer valid.

4. The Parties will meet at least once annually at a state-wide level (preferably in February or March) either physically in a meeting room or by teleconference to discuss program issues and opportunities and resolve any potential difficulties or conflicts. It is agreed that ADOT will coordinate all such meetings. Program operations from the previous year will be evaluated during the meeting, and the plan for implementation (Exhibit A) will be modified if necessary to achieve desired results. Any updated version of this plan will be mutually agreed upon by the three agencies.

B. The BLM roles and responsibilities include:

1. The BLM State Office Noxious and Invasive Weeds Management Program Lead will serve as the Point-of Contact to and the liaison between the BLM and the Proponent on all matters pertaining to the implementation of the EA for herbicide treatment of the Right-of-Way.

2. The BLM will work with the Proponent on proposed annual projects on ROWs.

3. In fulfillment of agency responsibilities under Section 106 of the National Historic Preservation Act, the BLM will coordinate with Native American Tribes on the annual treatment plans developed by ADOT.

4. The BLM will oversee the implementation and completion of the herbicide applications on ADOT ROWs.

5. Provide ADOT with a single list of priority weed species to be treated across BLM-administered lands in Arizona [see Exhibit C: **BLM Arizona Weed List**]. The nomenclature for species names and codes in the list will be in accordance with the USDA PLANTS Database found at http://plants.usda.gov/java/. The list may be further amended on a statewide basis through the BLM State Office Noxious and Invasive Weeds Management

Program Lead; the amended list will be provided by the BLM State Office Noxious and Invasive Weeds Management Program Lead to ADOT Roadside Resources.

6. Review and approve a PUP within the timeframe specified in Exhibit A. Scale and scope of each proposal will be mutually agreed upon between the BLM and ADOT prior to submission.

7. Submit a Highway Encroachment Permit Application to ADOT for approval of all work scheduled by BLM specifically for survey and monitoring of invasive species in state highway ROW.

8. Complete and maintain required environmental documents in compliance with the National Environmental Policy Act (NEPA) and associated regulations for implementation of this agreement.

C. The FHWA roles and responsibilities include:

1. The FHWA Environmental Coordinators will serve as the Points-of-Contact to and the liaison between the FHWA and the BLM and ADOT on all matters pertaining to the implementation of the EA for herbicide treatment of the ROW.

2. The FHWA will work with the BLM and ADOT on proposed construction projects on BLM-administered land that are funded under the Federal Aid Highway Program (FAHP).

3. For projects funded under the FAHP, Section 106 consultation will be conducted by FHWA as the federal lead agency. FHWA will consult with the appropriate agencies, tribes, and other interested parties on a project-by-project basis, pursuant to 36 CFR 800.3.

B. The ADOT roles and responsibilities include:

1. The ADOT Roadside Resources Specialist will serve as the Point-of-Contact and liaison between ADOT and BLM on matters pertaining to implementation of the EA for herbicide treatment of the ROW.

2. For projects funded under the Federal Aid Highway Program (FAHP), ADOT will coordinate with FHWA for NHPA Section 106 consultation to be conducted by FHWA as the federal lead agency. For herbicide treatments conducted as maintenance activities, ADOT will coordinate with the BLM to ensure Section 106 requirements are being met by BLM as the federal lead agency on the annual treatment plans developed by ADOT.

3. Arrange for annual or more frequent meetings between ADOT Districts and the BLM personnel they interact with locally. These meeting(s) would include ADOT District Maintenance and Development personnel with their counterpart BLM personnel in District or field offices to

    a. Identify ROW or other ADOT sites needing treatment,

b. Determine appropriate treatment methods and mitigations,

c. Establish schedules for needed treatments,

d. Identify sites where ADOT road maintenance equipment can be inspected and cleaned by air-blowing or washing to remove weed seed and other weed propagules before entering or leaving project sites,

e. Coordinate treatment of invasive plant infestations that cross jurisdictional boundaries,

f. Discuss any special requirements for areas such as scenic roads and environmentally sensitive areas,

g. Arrange to jointly check a number of treatment sites for compliance with established mitigations and treatment effectiveness, and

h. Determine equipment and supplies to be shared and execute any necessary agreements or paperwork.

4. Treat invasive plant species and hazardous vegetation by appropriate physical or chemical methods on ROW, construction sites, and other related areas managed by ADOT within BLM-administered lands. Principal invasive plant species to be treated will be those listed in the **BLM Arizona Weed List** (Exhibit C) which includes weed species found on Arizona's noxious weed list and priority species as designated collectively by the BLM District Offices. The list may be further amended on a statewide basis through the BLM State Office Noxious and Invasive Weeds Management Program Lead; the amended list will be provided by the BLM State Office Noxious and Invasive Weeds Management Program Lead to ADOT Roadside Resources.

5. Implement best management practices as per Chapter 7.3 (p. 86) and Chapter 11.4 (p. 114) in ADOT Guidelines to reduce establishment and colonization of noxious and invasive weed species on BLM-administered lands. This includes preventing transportation of weed seed or other types of weed propagules within BLM-administered lands by ADOT equipment during travel from weed-infested areas to non-infested areas by implementing necessary sanitary measures such as vehicle inspections, air-blowing or washing of equipment, etc. These sanitary measures should also be implemented prior to use of ADOT equipment on BLM-administered lands.

6. Implement sanitary measures to prevent introduction of weed seed or other types of weed propagules in seed, straw, hay, compost, gravel, or any other materials used during road construction or other ADOT-managed activities on or near BLM-administered lands. This includes specifying the purchase of straw, wattles, straw blankets, and other straw materials certified to be weed-free prior to use on ADOT projects. Testing certificates will be reviewed for the presence of weed seed for compost supplied for ADOT projects. Gravel and other materials must be obtained from stockpiles or material sources that are free of listed weed species. Seed certificates of analysis from a seed testing laboratory using standards of the Association of Official Seed Analysts (AOSA) will be reviewed by ADOT in advance of seeding. Seed lots may be rejected based on the presence of weed seeds.

7. Provide direction to all ADOT crews and private contractors to ensure compliance with established procedures, mitigations, and other requirements. This includes
    a. Implementing the Standard Operating Procedures identified in the EA.
    b. Applying all buffer zones and other protective measures identified in the EA and PUP as necessary to protect water resources, Tribal ethno-botany locations, threatened & endangered (T&E) species, or sensitive species as specified in the EA.
    c. Pesticide Use Proposals (PUPs) shall be sent to the BLM District or field office contact 30 days prior to treatment start date.

8. Provide records for applications of both restricted-use and general-use herbicides, including applications made by private contractors, as specified in Exhibit A.

9. Be responsible for obtaining coverage under the Arizona Department of Environmental Quality Pesticide General Permit (AZPGP) for pesticide discharges made by ADOT in Federally designated "Waters of the US" that occur on BLM-administered lands in compliance with National Pollutant Discharge Elimination System (NPDES) regulations of the Clean Water Act.

EXHIBITS

A	Annual Implementation Schedule
B	ADOT, BLM and FHWA Contact Lists
C	BLM Arizona Priority Noxious and Invasive Plant List
D	BLM Chemical and Adjuvant Lists
E	ADOT and BLM Pesticide Contact Information Map

EXHIBIT A: Annual Implementation Schedule

ANNUAL IMPLEMENTATION SCHEDULE

Early November	ADOT submits plan of anticipated treatments to BLM State and District offices for preparation of tribal coordination letters.
January	Annual BLM tribal coordination letters sent out ➢ Letters will be mailed out from BLM District offices to tribes with information on anticipated treatments
February-March	Statewide Herbicide Coordination Meeting (Four Agency Partnership) ➢ Update Annual Maintenance Plan if needed
February-April	District/Field Level Coordination Meetings ➢ Discuss/review annual herbicide treatment plans
As soon as practical and by September 15 each year	ADOT submits pesticide treatment information to BLM District or field offices as specified below.

Pesticide Use Proposal (PUP) Submissions

1. ADOT initiates PUP forms
   - ➢ Typically, the ADOT Herbicide Contact will develop a draft PUP based on the PUP templates for BLM-administered land (with assistance from ADOT Environmental Planning as needed)
2. The ADOT Herbicide Contact will submit an electronic Word file and hard copy PUP forms (with original signatures) to the appropriate BLM District or Field Office at least 30 days before treatment is planned to begin unless otherwise arranged ahead of time.
   - ➢ The submittal email should be copied to the BLM State Office Invasive Species Coordinator and ADOT Roadside Resources for tracking purposes.
3. The BLM Field Office Pesticide /Noxious Weed Coordinator will review the PUP, upload the information into the National Invasive Species Information Management System (NISIMS) and obtain the Field Office Manager signature, then forward the signed PUP to the BLM State Pesticide Coordinator.
4. The BLM State Pesticide Coordinator will review and approve the PUP and submit it to the Deputy State Director for final signature.
5. The BLM State Pesticide Coordinator will inform the BLM Field Office Pesticide /Noxious Weed Coordinator and the PUP Originator when the PUP has been approved.

Pesticide Treatment Reporting

- ➢ For maintenance projects, ADOT District contacts will submit a National Invasive Species Information Management System (NISIMS) form and GIS data for each treatment area to the BLM Field Office as soon as practical. All records are to be submitted by September 15th annually (ahead of the end of the Federal Fiscal Year).
- ➢ For construction projects, the ADOT Resident Engineer will submit the contractor's pesticide treatment records to the BLM Field Office as soon as practical. All records are to be submitted by September 15th annually (ahead of the end of the Federal Fiscal Year).

EXHIBIT B: ADOT, BLM and FHWA Contact Lists

A. ADOT CONTACTS

ADOT Roadside Development Program	**ADOT Environmental Planning Roadside Resources/Biology**
Name: LeRoy Brady, Landscape Architect Address: 1611 W. Jackson St., MD EM03 City, State, ZIP: Phoenix, AZ 85007 Telephone: 602.712.7357 Email: lbrady@azdot.gov Responsibilities: Maintains list of noxious and invasive species, approves seed certificates and Noxious Species Control Plans for construction projects	Name: Kris Gade, Roadside Resources Specialist Address: 1611 W. Jackson St, MD EM02 City, State, ZIP: Phoenix, AZ 85007 Telephone: 602.292.0301 Email: kgade@azdot.gov Responsibilities: Vegetation management and herbicide technical resource; herbicide coordination meeting; programmatic approaches to biological resources
ADOT Environmental Planning Maintenance Planner	**ADOT Environmental Planning Biology Team Lead**
Name: Paul Langdale Address: 1221 S. Second Ave. City, State, ZIP: Tucson, AZ 85713 Telephone: 520.388.4251 Email: plangdale@azdot.gov Responsibilities: Environmental review of maintenance activities	Name: Joshua Fife Address: 1611 W. Jackson St, MD EM02 City, State, ZIP: Phoenix, AZ 85007 Telephone: 602.712.6819 Email: jfife@azdot.gov Responsibilities: Environmental review of development projects and maintenance activities
ADOT Northeast Herbicide Contact	**ADOT Northcentral Herbicide Contact**
Name: Robert Guevara Address: 200 W McNeil Rd City, State, ZIP: Show Low, AZ 85901 Telephone: 928.532.2370 Email: rguevara@azdot.gov Responsibilities: majority of non-construction-related herbicide applications and vegetation management in the Northeast District	Name: Michael Drios Address: 1801 S. Milton Rd. City, State, ZIP: Flagstaff, AZ 86001 Telephone: 928.853.8479 Email: mdrios@azdot.gov Responsibilities: majority of non-construction-related herbicide applications and vegetation management in the Northcentral District
ADOT Southeast District Herbicide Contact	**ADOT Southcentral District Herbicide Contact**
Name: Robert Stoner Address: 2082 E. US Highway 70 City, State, ZIP: Safford, AZ 85546 Telephone: 520. 705.5721 Email: rstoner@azdot.gov Responsibilities: non-construction-related herbicide applications and vegetation management	Name: Doug Miller Address: 1444 W. Grant Road City, State, ZIP: Tucson, AZ 85745 Telephone: 520.429.6637 Email: dmiller2@azdot.gov Responsibilities: non-construction-related herbicide applications and vegetation management

ADOT Western Region Herbicide Contact	**ADOT Central Maintenance District Herbicide Contact**
Name: Kyle Seisinger Address: 2650 Glassford Hill Rd, MD P863 City, State, ZIP: Prescott Valley, AZ 86314 Telephone: 928.277.2938 Email: kseisinger@azdot.gov Responsibilities: majority of non-construction-related herbicide applications and vegetation management in the Northwest and Southwest Districts	Name: Mike Srogoncik Address: 2140 W. Hilton Ave. City, State, ZIP: Phoenix, AZ 85009 Telephone: 602.571.8814 Email: msrogoncik@azdot.gov Highway Operations Superintendent Responsibilities: non-construction-related herbicide applications and vegetation management
ADOT Central Construction District Contact	**ADOT Northeast District Contact**
Name: Kirk Kiser Address: 2505 W. Georgia Ave., MD E758 City, State, ZIP: Phoenix, AZ 85017 Telephone: 602.712.3780 Email: kkiser@azdot.gov Sr. Resident Landscape Architect Responsibilities: construction-related herbicide applications in Central District	Name: Lindy Sherrer Address: 2407 Navajo Blvd City, State, ZIP: Holbrook, AZ 86025 Telephone: 928.524.5446 Email: lsherrer@azdot.gov District Maintenance Superintendent
ADOT Northwest District Contact	**ADOT Northcentral District Contact**
Name: Todd Bloom Address: 1109 E. Commerce Dr. City, State, ZIP: Prescott, AZ 86305 Telephone: 928.777.5868 Email: tbloom@azdot.gov Highway Operations Superintendent	Name: Kurt Harris Address: 1801 S. Milton Rd. City, State, ZIP: Flagstaff, AZ 86001 Telephone: 928.779.7591 Email: kharris@azdot.gov District Maintenance Engineer
ADOT Southeast District Contact	**ADOT Southwest District Contact**
Name: Tyrel Cranford Address: 2082 E. US Highway 70 City, State, ZIP: Safford, AZ 85546 Telephone: 928.432.4908 Email: tcranford@azdot.gov Maintenance Superintendent	Name: Danny Soliz Address: 2243 E. Gila Ridge Road City, State, ZIP: Yuma, AZ 85365 Telephone: 928.317.2122 Email: dsoliz@azdot.gov District Maintenance Superintendent
ADOT Southcentral District Contact	**ADOT Weblinks**
Name: Thomas Threlkeld Address: 1221 S Second Ave. City, State, ZIP: Tucson, AZ 85713 Telephone: 520.388.4214 Email: tthrelkeld@azdot.gov District Maintenance Superintendent	Roadside Development Info & Weed Lists: http://azdot.gov/business/engineering-and-construction/roadway-engineering/roadside-development Environmental Planning Contacts: http://azdot.gov/business/environmental-planning/contact-us District Contacts: http://azdot.gov/business/district-contacts/

B. FHWA CONTACTS

FHWA Environmental Coordinator	FHWA Environmental Coordinator
Name: Tremaine Wilson Address: 4000 N. Central Avenue, Suite 1500 City, State, ZIP: Phoenix, AZ 85012-3646 Telephone: 602.382.8970 Email: Tremaine.Wilson@dot.gov	Name: Rebecca Yedlin Address: 4000 N. Central Avenue, Suite 1500 City, State, ZIP: Phoenix, AZ 85012-3646 Telephone: 602.382.8979 Email: Rebecca.Yedlin@dot.gov

C. BLM CONTACTS

Arizona State Office	Arizona Strip Field Office
Lisa Thornley One North Central Ave., Suite 800 Phoenix, AZ 85004 602-417-9242 lthornley@blm.gov	Justin Reeve 345 East Riverside Drive St. George, UT 84790 435-688-3243 jreeve@blm.gov
Hassayampa Field Office	**Lower Sonoran Field Office**
Rem Hawes 21605 North 7th Ave. Phoenix, AZ 85027 623-580-5590 rhawes@blm.gov	Ed Kender 21605 North 7th Ave. Phoenix, AZ 85027 623-580-5590 ekender@blm.gov
Tucson Field Office	**Safford Field Office**
Darrell Tersey 3201 East Universal Way Tucson, AZ 85756 520-258-7218 dtersey@blm.gov	Jason Martin 711 14th Ave. Safford, AZ 85546 928-348-4415 jmartin@blm.gov
Lake Havasu Field Office	**Kingman Field Office**
Sheri Ahrens 2610 Sweetwater Ave. Lake Havasu City, AZ 86406 928-505-1284 sahrens@blm.gov	Wade Reaves 2755 Mission Blvd. Kingman, AZ 86401 928-718-3734 wreaves@blm.gov
Yuma Field Office	
John Hall 2555 East Gila Ridge Road Yuma, AZ 85365 928-317-3202 jahall@blm.gov	
BLM-ADOT Herbicide EA (BLM NEPA # DOI-BLM-AZ-0000-2013-0001-EA): https://eplanning.blm.gov/epl-front-office/eplanning/projectSummary.do?methodName=renderDefaultProjectSummary&projectId=34810	

EXHIBIT C: BLM Arizona Priority Noxious and Invasive Plant List

USDA PLANT CODE	SCIENTIFIC NAME	COMMON NAME
ACRE3	*Acroptilon repens*	Russian knapweed
AECY	*Aegilops cylindrica*	jointed goatgrass
AIAL	*Ailanthus altissima*	tree-of-heaven
ALMA12	*Alhagi maurorum*	camelthorn
ARDO4	*Arundo donax*	giant reed
ASFI2	*Asphodelus fistulosus*	onionweed
AVFA	*Avena fatua*	wild oats
BRNI	*Brassica nigra*	black mustard
BRTO	*Brassica tournefortii*	Asian mustard
BRCA6	*Bromus catharticus*	rescuegrass
BRDI3	*Bromus diandrus*	ripgut brome
BRJA	*Bromus japonicus*	Japanese brome
BRMA3	*Bromus madritensis*	compact brome
BRRU2	*Bromus rubens*	red brome
BRTE	*Bromus tectorum*	downy brome, cheatgrass
CACH42	*Cardaria chalepensis*	lenspod whitetop
CADR	*Cardaria draba*	whitetop
CAPU6	*Cardaria pubescens*	hairy whitetop
CAAC	*Carduus acanthoides*	plumeless thistle
CANU4	*Carduus nutans*	musk thistle
CEEC	*Cenchrus echinatus*	southern sandbur
CESP4	*Cenchrus spinifex*	field sandbur
CEST8	*Centaurea stoebe*	spotted knapweed
CEDI3	*Centaurea diffusa*	diffuse knapweed
CEIB	*Centaurea iberica*	Iberian starthistle
CEME2	*Centaurea melitensis*	Malta starthistle
CECA2	*Centaurea calcitrapa*	red starthistle
CENI3	*Centaurea nigrescens*	meadow knapweed
CEVI	*Centaurea virgata*	squarrose knapweed
CESU	*Centaurea sulphurea*	sulphur knapweed
CESO3	*Centaurea solstitialis*	yellow starthistle
CETE	*Ceratocephala testiculata*	curveseed butterwort
CIIN	*Cichorium intybus*	chicory
CHJU	*Chondrilla juncea*	rush skeletonweed
CHTE2	*Chorispora tenella*	blue mustard
CIAR4	*Cirsium arvense*	Canada thistle
CIVU	*Cirsium vulgare*	bull thistle
COMA2	*Conium maculatum*	poison hemlock
COAR4	*Convolvulus arvensis*	field bindweed
CYOF	*Cynoglossum officinale*	houndstongue
DICU5	*Dimorphotheca cuneata*	white bietou
DISI4	*Dimorphotheca sinuata*	glandular Cape marigold
DITE4	*Diplotaxis tenuifolia*	wallrocket
DIFU2	*Dipsacus fullonum*	common teasel
DRAR7	*Drymaria arenariodes*	alfombrilla
ELAN	*Elaeagnus angustifolia*	Russian olive
ELRE3	*Elymus repens*	quackgrass
ERCU2	*Eragrostis curvula*	weeping lovegrass

USDA PLANT CODE	SCIENTIFIC NAME	COMMON NAME
ERLE	*Eragrostis Lehmanniana*	Lehmann lovegrass
ERRE	*Erysimum repandum*	spreading wallflower
EUES	*Euphorbia esula*	leafy spurge
EUMU	*Euryops subcarnosus* (*E. multifidus*)	sweet resinbush (hawkseye)
HAGL	*Halogeton glomeratus*	halogeton
HYVE3	*Hydrilla verticillata*	hydrilla
HYNI	*Hyoscyamus niger*	black henbane
HYPE	*Hypericum perforatum*	St. Johnswort
ISTI	*Isatis tinctoria*	dyer's woad
KOSC	*Kochia scoparia*	kochia
LELA2	*Lepidium latifolium*	perennial pepperweed
LEVU	*Leucanthemum vulgare*	oxeye daisy
LIDA	*Linaria dalmatica*	Dalmatian toadflax
LIVU2	*Linaria vulgaris*	yellow toadflax
LYSA2	*Lythrum salicaria*	purple loosestrife
MEOF	*Melilotus officinalis*	yellow sweetclover
MERE9	*Melinis repens*	natal grass
MYAQ2	*Myriophyllum aquaticum*	parrotfeather
NEOL	*Nerium oleander*	oleander
ONPI	*Oncosiphon piluliferum*	globe chamomile
ONAC	*Onopordum acanthium*	Scotch thistle
PAAC3	*Parkinsonia aculeata*	Mexican palo verde
PEHA	*Peganum harmala*	African rue
PECI	*Pennisetum ciliare (Cenchrus ciliaris)*	buffelgrass
PESE3	*Pennisetum setaceum*	fountaingrass
PEIN4	*Pentzia incana*	karoo bush
PHAU7	*Phragmites australis*	common reed
POCU6	*Polygonum cuspidatum*	Japanese knotweed
PORE5	*Potentilla recta*	sulphur cinquefoil
PYRAC	*Pyracantha sp.*	pyracantha
RHLA11	*Rhus lancea*	African sumac
SARA3	*Saccharum ravennae*	ravenna grass
SAKA	*Salsola kali*	Russian thistle
SATR12	*Salsola tragus*	prickly Russian thistle
SAAE	*Salvia aethiopis*	Mediterranean sage
SAMO5	*Salvinia molesta*	giant salvinia
SCAR	*Schismus arabicus*	Arabian schismus
SCBA	*Schismus barbatus*	Mediterranean grass
SIAR4	*Sinapis arvensis*	wild mustard
SOHA	*Sorghum halepense*	Johnsongrass
TACA8	*Taeniatherum caput-medusae*	medusahead
TACH2	*Tamarix chinensis*	five-stamen tamarisk
TAPA4	*Tamarix parviflora*	smallflower tamarisk
TARA	*Tamarix ramosissima*	saltcedar
ULPU	*Ulmus pumila*	Siberian elm
VIMA	*Vinca major*	bigleaf periwinkle
VIMI2	*Vinca minor*	common periwinkle
XASP2	*Xanthium spinosum*	spiny cocklebur
XAST	*Xanthium strumarium*	common cocklebur

EXHIBIT D: Approved BLM Chemical and Adjuvant Lists

Table D-1. Herbicides Approved or Proposed for Use on BLM-Administered Lands

Herbicide (Active Ingredient)	Characteristics and Target Species	Species Selective Herbicide	Target Vegetation Types				
			Annual	Perennial	Broadleaf	Grasses	Riparian/ Aquatic
Herbicides Approved for Use on BLM-Administered Land							
2, 4-D	Foliar absorbed; post-emergent. Targets kochia, mustards, and Russian thistle.	x	x	x	x		x
Bromacil	Inhibits photosynthesis. Targets kochia, Russian thistle, weeds, and brush.		x		x	x	
Chlorsulfuron	Inhibits enzyme activity. Targets biennial thistles, annual and perennial mustards	x	x	x	x	x	
Clopyralid	Mimics plant hormones. Targets knapweeds, mesquite, starthistle, and other thistles.	x	x	x	x		
Dicamba	Growth regulator. Targets knapweeds, kochia, Russian thistle, other thistles, brush, and trees.		x	x	x		
Diflufenzopyr	Post-emergent; inhibits auxin transport. Controls annual and perennial broadleaf weeds and suppresses annual grasses.		x	x	x	x	
Diflufenzopyr +Dicamba	Post-emergent; inhibits auxin transport. Targets knapweeds, kochia, Russian thistle, and other thistles.				x		
Diquat	Foliar applied. Targets giant salvinia, hydrilla, and watermilfoils.						x
Diuron	Pre-emergent control. Targets kochia, Russian thistle, and weeds.		x	x	x	x	
Fluridone	Controls submersed aquatic plants. Targets hydrilla and watermilfoils.						x
Glyphosate	Targets grasses, weeds, woody shrubs, and sedges.		x	x	x	x	x
Hexazinone	Foliar or soil applied; inhibits photosynthesis. Targets mesquite and scrub oak.		x	x	x	x	
Imazapic	Post-emergent. Targets downy brome, leafy spurge, mesusahead, and mustards.	x			x	x	
Imazapyr	Pre-and post-emergent; absorbed through foliage and roots. Targets tamarisk.		x	x	x		x
Metsulfuron methyl	Post-emergent; inhibits cell division in roots and shoots. Targets mustards and biennial thistles.	x	x	x	x		

Table D-1. Herbicides Approved or Proposed for Use on BLM-Administered Lands

Herbicide (Active Ingredient)	Characteristics and Target Species	Species Selective Herbicide	Target Vegetation Types				
			Annual	Perennial	Broadleaf	Grasses	Riparian/ Aquatic
Picloram	Foliar and root absorption; mimics plant hormones. Targets knapweeds, leafy spurge, and starthistle.	x	x	x	x		
Sulfometuron methyl	Pre-and post-emergent; inhibits cell division. Targets downy brome, mustards, and medusahead.				x	x	
Tebuthiuron	Soil activated; pre-and post-emergent. Targets creosotebush, oak, Russian olive, and sagebrush.		x	x	x	x	
Triclopyr	Growth regulator. Targets mesquite and tamarisk.				x		x
Herbicides Proposed for Use on BLM-Administered Land*							
Aminopyralid*	Post-emergent; inhibits auxin transport; reduced risk pesticide. Provisionally registered for control of broadleaf weeds.		x	x	x		
Fluroxypyr*	Post-emergent. Controls broadleaf weeds and woody brush.		x	x	x		
Rimsulfuron*	Foliar absorbed; inhibits protein formation and plant growth. Targets grasses, annual and perennial broadleaf weeds, and glyphosate-resistant species.		x	x	x	x	
*Currently under review in a separate EIS; decision anticipated in summer 2016							

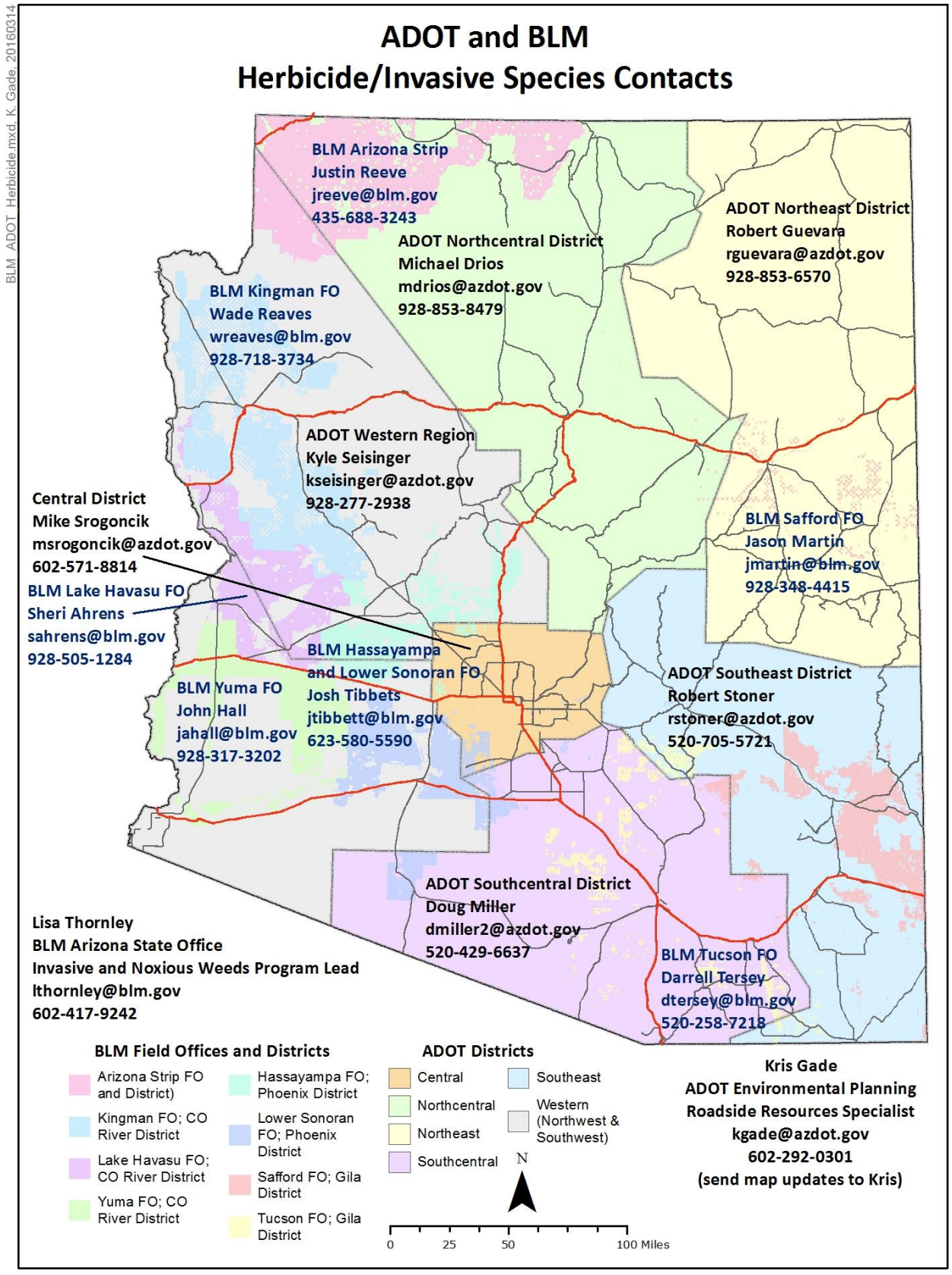
Table D-2. Adjuvants Approved for Use on Public Lands

Adjuvant Class	Adjuvant Type	Trade Name
Surfactant	Non-ionic	Spec 90/10
		Optima
		Induce
		Actamaster Spray Adjuvant
		Actamaster Soluble Spray
		Adj.
		Activator 90
		LI-700
		Spreader 90
		UAP Surfactant 80/20
		X-77
		Cornbelt Premier 90
		Spray Activator 85
		R-11
		R-900
		Super Spread 90
		Super Spread 7000
	Spreader/Sticker	Cohere
		R-56
		Attach
		Bond
		Tactic
		Lastick
	Silicone-based	Aero Dyne-Amic
		Dyne-Amic
		Kinetic
		Freeway
		Phase
		Phase II
		Silwet L-77
		Sylgard 309
		Syl-Tac
Oil-based	Crop Oil Concentrate	Crop Oil Concentrate
		Herbimax
		Agri-Dex
		R.O.C. Rigo Oil Conc.
		Mor-Act
	Methalated Seed Oil	Methylated Spray Oil Conc.
		MSO Concentrate
		Hasten
		Super Spread MSO
	Vegetable Oil	Amigo
		Competitor
Fertilizer-based	Nitrogen-based	Quest
		Dispatch, Dispatch 111, Dispatch 2N, Dispatch AMS
		Flame
		Bronc, Bronc Max, Bronc Max EDT, Bronc Plus Dry EDT, Bronc Total
		Cayuse Plus

Table D-2. Adjuvants Approved for Use on Public Lands

Adjuvant Class	Adjuvant Type	Trade Name
Special Purpose or Utility	Buffering Agent	Buffers P.S.
		Tri-Fol
	Colorants	Hi-Light, Hi-Light WSP
		Marker Dye
		Signal
	Compatibility/Suspension Agent	E Z MIX
		Support
		Blendex VHC
	Deposition Aid	ProMate Impel
		Pointblank
		Strike Zone DF
		Intac Plus
		Liberate
		Reign
		Weather Gard
		Bivert
		EDT Concentrate
		Sta Put
	Defoaming Agent	Fighter-F 10, Fighter-F Dry
		Foam Buster
		Cornbelt Defoamer
		No Foam
	Diluent/Deposition Agent Foam Marker	Improved JLB Oil Plus
		Align
		R-160
	Invert Emulsion Agent	Redi-vert II
	Tank Cleaner	Wipe Out
		All Clear
		Tank and Equipment Cleaner
		Kutter
		Neutral-Clean
		Cornbelt Tank-Aid
	Water Conditioning	Blendmaster
		Choice, Choice Xtra, Choice Weather Master
		Cut-Rate

EXHIBIT E: ADOT and BLM Pesticide Contact Information Map



(available online at http://azdot.gov/business/environmental-planning/biology/roadside-resources)